

Claims

1. Method for detecting nucleic acids in a sample comprising the steps:
 - (a) purifying the nucleic acids in a binding space during which the nucleic acids are immobilized and impurities are separated,
 - (b) eluting the immobilized nucleic acids,
 - (c) amplifying the purified nucleic acids in an amplification space and
 - (d) detecting the amplification products in a detection space

wherein
the amplification space contains at least a part of the binding space.
2. Method as claimed in claim 1,

wherein
the detection space contains at least a part of the amplification space or/and at least a part of the binding space.
3. Method as claimed in claim 1 or 2,

wherein
an at least partial capillary space is used as the binding space or/and amplification space.
4. Method as claimed in one of the previous claims,

wherein
nucleic acids are adsorbed to a glass surface in step (a).

out in the same reaction space.

12. Method as claimed in one of the previous claims,
wherein
all steps are carried out in a closed device.
13. Use of the method as claimed in one of the claims 1
to 12 to detect pathogens in biological samples.
14. Device for detecting nucleic acids in a sample, in
particular by a method as claimed in one of the
claims 1 to 12, comprising:
 - (a) a binding space to purify nucleic acids, in
which the nucleic acids are immobilized and
impurities are separated,
 - (b) an amplification space to amplify nucleic acids,
 - (c) a detection space to detect nucleic acids and
optionally
 - (d) reservoirs or/and supply lines for the sample
or/and reagents,**wherein**
the amplification space contains at least a part of
the binding space.
15. Device as claimed in claim 14,
wherein
the detection space contains at least a part of the
amplification space or/and the binding space.
16. Device as claimed in claim 14 or 15,
wherein
the binding space or/and amplification space is at
least partially in the form of a capillary space.

23. Method as claimed in one of the claims 17 to 22,
wherein
the volume ratio of lysis mixture to capillary space
is larger than 10:1.
24. Method for isolating nucleic acids from
microorganisms,
wherein
a sample containing microorganisms is contacted with
a polystyrene surface under conditions in which the
microorganisms bind to the polystyrene surface and
other sample components are separated, and the
nucleic acids are isolated from the microorganisms.
25. Method as claimed in claim 24,
wherein
a salt is additionally added to facilitate the
binding of the microorganisms to the polystyrene
surface.
26. Method as claimed in claim 24 or 25,
wherein
a polystyrene capillary is used.
27. Method as claimed in one of the claims 24 to 26,
wherein
the sample is passed several times over the
polystyrene surface.
28. Method as claimed in one of the claims 24 to 27,
wherein
the microorganisms are Chlamydia.

29. Method as claimed in one of the claims 24 to 28,
wherein
urine is used as the sample.
30. Method as claimed in one of the claims 24 to 29,
wherein
a subsequent amplification of the isolated nucleic
acids is carried out.
31. Method for the amplification of nucleic acids which
comprises steps at different temperatures,
wherein
the amplification is carried out in a space which is
surrounded by a heatable metal layer.
32. Method as claimed in claim 31,
wherein
the amplification is carried out in a capillary
space.
33. Method as claimed in claim 31 or 32,
wherein
the whole surface of the space is surrounded by a
metal layer.
34. Method as claimed in one of the claims 31 to 33,
wherein
a glass or/and polystyrene capillary is used which is
surrounded by a heatable metal layer.
35. Capillary reaction vessel for amplifying nucleic
acids which is surrounded by a heatable metal layer.